



International Journal on Recent Researches In Science, Engineering & Technology

(Division of Management Studies)

A Journal Established in early 2000 as National journal and upgraded to International journal in 2013 and is in existence for the last 10 years. It is run by Retired Professors from NIT, Trichy.

It is an absolutely free (No processing charges, No publishing charges etc) Journal Indexed in JIR, DIIF and SJIF.

Research Paper

Available online at: www.jrrset.com

ISSN (Print) : 2347-6729

ISSN (Online) : 2348-3105

Volume 4, Issue 10,
October 2016

JIR IF : 2.54

DIIF IF : 1.46

SJIF IF: 1.329

ERP Technology Based Study on Impact of Enterprise Solution in Manufacturing Industry

Asa N G,
Research scholar,
Dept. of Management,
Maharshi University of
Information Technology,
Lucknow, U.P.,India

Dr .P K. Pandey
Professor,
Dept. of Management,
Maharshi University of
Information Technology
Lucknow, U.P.,India.

Abstract:

Enterprise Resource Planning (ERP) technology is a powerful and recently developed method for manufacturing and service organizations that wish to streamline operations and hasten inventory and warehouse management while improving customer service. However, with the advent of new technologies, ERP implementations are about to get dramatically better. These new technologies – include cloud computing, mobile solutions and real-time business intelligence/analytics – along with new advances in warehouse automation – which will empower manufacturing organizations like never before. In fact, these new ERP innovations will allow manufacturers to completely jump-start their operations. For example, in the very near future, manufacturers will rely on mobile networked devices and on-demand software to increasingly enable the seamless integration, tracking and optimization of key tasks from inventory, shop floor and management all the way to capacity and materials planning and product quality control. Manufacturers focused on growing their businesses must consider implementing these ERP advances in particular. The major contribution of the present work is to address the

limitations on the application of ERP techniques in manufacturing and service organizations and to evolved a scientific approach for ERP so that the various sections in an organization can use the timely information provided by ERP for making correct decisions which add value to the organization.

Keywords: Enterprise, Optimization, Planning, Manufacturing, Information.

1.0. Introduction

Mobile is emerging as a critical technology for manufacturers that wish to empower their remote workers while improving customer service and satisfaction. One leading manufacturer of insulated industrial outerwear relies on VAI's S2K Sales Force application so that the outside sales staff can use smart phones and tablets to directly view sales patterns, notes, previous sales, inventory levels and past appointments prior to visiting clients. They can also enter more notes or place orders in real-time – which are all immediately visible to the back office. This resulted in a major productivity boost for the manufacturer. Most manufacturers are not leveraging their own internal data to their best competitive

advantage. In fact, these organizations often have valuable data scattered throughout their enterprises without a proven mechanism to find, track and recover exact components of data in real-time – necessary for making more intelligent decisions on-the-fly as well as keeping abreast of competitors, sales forecasts, inventory changes and market trends. Next-generation ERP technology will get a boost from new advances in analytics and business intelligence solutions that will give manufacturers the ability to rapidly uncover the right data sets while providing intelligence on how to act on that data based on the situation at hand.

ERP solutions will be further bolstered by warehouse automation

advances that offer such important capabilities as RFID tracking and integration with voice-pick solutions. New advances in ERP will give manufacturers the ability to analyze large data sets to more effectively drive innovation, productivity and efficiencies. According to a recent study by the McKinsey Global Institute, a major retailer leveraged the power of Big Data to improve operating margins by more than 60%. And, McKinsey believes that the manufacturing industry can benefit in a similar fashion by leveraging data-driven strategies to innovate, compete and capture value from both deep and up-to-the-minute real-time information.

There are new technologies that can dramatically improve operations and inventory management for manufacturers of all sizes. These advances will transform the role of inventory management from a record keeping tactic to a more strategic business asset by driving

major improvements in overall productivity while eliminating costly mistakes in the warehouse.

On the shop floor and in the warehouse, many manufacturers are already using RF scanning to improve performance and overall productivity. By implementing RF scanning alone, manufacturers can automate the entire warehouse and shop floor, improving performance across all key areas including: receiving; directed put away product movement; picking; packing order verification; returns refused shipment; raw materials issue production; bin replenishment; warehouse transfers; file set-up; and, cycle counting.

2.0 Literature Review

Despite this acknowledged importance and SME contribution to economic growth, SMEs across the globe and in South Africa in particular, are still faced with numerous challenges that inhibit entrepreneurial growth[1]. Apart

from SME funding and access to finance, the GEM Reports noted that South African SMEs also suffer from poor management skills, which is a result of a lack of adequate training and education. This results in high rates of business failure - SA has one of the lowest SMEs survival rates in the world[2]. This study investigates the extent of access to credit and support for SMEs in South Africa[3]. The study was commissioned by the NCR, and it seeks to understand what has been researched and written on SME access to credit and support in relation to juristic persons as defined by the NCA. The study is intended to assist the NCR in making policy proposals to the Minister of the Department of Trade and Industry (the data) on matters affecting the consumer credit industry in order to improve access to credit for persons contemplated in the Act[4]. The report is structured as follows. This section introduces the report and offers some background information. The following section

summarises the methodology adopted in this study[5]. It presents an overview of the characteristics and definitions of SMEs from an international perspective and then South Africa. The main findings of the study are also discussed. This evaluation helps understand why most of the Government schemes are not performing well and gives an insight on what to be done to increase SME uptake on these programmes. Sudhi [6] provided a summary of provincial funding programmes. Text books on managing ERP [7] discussed the issue of SME definitions, chronicle the subject from an international perspective, and conclude with the local SME classifications[8].

3.0 Scope and Objectives of present Work

Like most businesses, manufacturing companies are feeling the economic pinch. Staying alive is a delicate balance of supply and demand at a time when customer loyalty is at an all-time low.

To stay successful, businesses must look to improve processes, systems and their supply chain, to give them:

- Accurate, on demand customer data
- An easier way to operate successfully across multiple locations
- A way to change customer behaviors and re-order stock with certainty
- An accurate, reliable picture of costs and flexibility with pricing

The challenge for manufacturers is to find a system that allows them to forecast and react efficiently to increasingly specific customer demands and is discussed below.

4.0 Issues and Challenges Related to Present Work

- ❖ To see what makes an impact.
- ❖ To analyze how Enterprise Solutions improve operational efficiency.

- ❖ To see how enterprise solutions transforming business into empowering manufacturing industry.

- ❖ To study how enterprise solutions provides the emerging opportunities and market changes in the industry.

- ❖ To study how enterprise solutions optimizes technology and business processes in manufacturing industry.

- ❖ To offer some suggestions to implement in a better way and to enable better solutions in the manufacturing industry

5.0 Formulation of the Problem

The existence and survival of any manufacturing or servicing organization mainly depends upon how best the resources available are fully utilized through scientifically developed resource planning activities. Though literature reported many such techniques, still a few of

them need to be addressed properly. Hence the present work namely development of a scientific resource planning technique is taken up to address the limitations in the existing methods their by the efficiency of ERP can be improved.

6.0 Present Work

Research design is the elementary agenda of the present study. An exploration design stipulates the means and techniques for conducting the study.

In the present work the following descriptive research design is adapted.

6.1 Source of Data:

There are two types of data:

1. Primary data
2. Secondary data

6.1.1 Primary Data:

The primary data is renewed evidence unruffled for a itemized study. The primary data can be assembled by observational,

investigation and inspection method. Here the intact pattern of plan flinches with the designation of numerous terms used, units to be engaged, type of survey to be conducted, extent of accuracy aimed etc.,

The methods commonly used for the collection of primary data are:

1. Direct personal investigation, where the data is collected by the investigator from the sources concerned.
2. Indirect oral interviews, where the interview is conducted directly or indirectly concerned with subject matter of the enquiry.
3. Information received through local agencies, which are appointed by the investigator.
4. Mailed questionnaire method, here the method consists in preparing a questionnaire (a list of questions relating to the field of enquiry and providing space for the answers to be filled by the

respondents.), which is mailed to the respondents with a request for quick response within the specified time.

In the present work questionnaire method is used to collect the primary data.

6.1.2 Secondary Data:

The secondary data refers to data, which already exists.

The secondary data collected from internal records, business magazines, company websites and Newspapers.

6.2 Research instruments:

For the collection of primary data a structured questionnaire was prepared covering various aspects of the study.

The questionnaire contains closed-ended and dichotomous questions.

6.3 Sampling Procedure:

It is a procedure required from defining a population to the actual selection of the sample.

6.3.1 Introduction:

The precision and accuracy of the survey results are affected by the manner in which the sample has been chosen.

6.3.2 Sample:

A part of a population, which is provided by some process or other, usually by deliberate selection with the object of investigating the properties of the parent population set.

Non probability sampling method is a deterministic method where the sample size is numerous and can't be determined. So for our convenience we take convenience-sampling method where all the population in sample is given equal opportunity.

6.3.4 Sampling Method: - Convenience sampling method.

Statistical Tools Used: Percentage analysis

1. **Population:** Employees of the company.

2. **Source of data:** The two important sources of data are the primary data and secondary data. The primary data is collected through survey method with the help of survey and personal interview. The secondary data is been collected from consumer attitude books.
3. The information is collected through survey done in the company
4. The sample taken for the study caters to upper class and middle class of the society.
5. **Sample method:** the sample method used is non-probability. In non-probability sampling the chance of any particulars unit in the population being selected unknown.
 - a. **Procedure:** the procedure used for sampling is convenient sampling in this method the sample unit is chosen primarily on the basics of the convenience to the investigator.

6. The survey consists of structured questionnaire.

7. The questionnaire consists of both open and closed-ended questions

7.0 Conclusions

ERP system has been defined as a packaged business software system that allows a company, to automate and integrate the majority of its business processes, and share common data and practices across the enterprise. Through integration of various functions in the organization, managers and staff alike can use timely information to make better decisions and to perform activities, which add value to the company. The major contribution of the present work is to address the limitations on the application of ERP techniques in manufacturing and service organizations and to evolved a scientific approach for ERP so that the various sections in an organization can use the timely

information provided by the scientifically developed ERP methods for making correct decisions which add value to the organization.

References

- [1] C. A. Ptak (2004) **Erp:Tools, Techniques, and Applications for Integrating the Supply Chain**, CRC Press, - Business & Economics - 430 pages.
- [2] Christine V. Bullen, Richard LeFave, Gad J. Selig (2010) **,Implementing Strategic Sourcing: A Manager's Guide to World Class Best Practices** Van HarenPublishing, - Computers - 359 pages
- [3] Dimitris N. Chorafas (2001) **Integrating ERP, CRM, Supply Chain Management, and Smart Materials**, CRC Press, - Computers - 408 pages
- [4] Robert B. Handfield, Larry C. Giunipero, James L. Patterson, (2010), **Purchasing & Supply Chain Management**, Cengage

Learning EMEA- Purchasing - 511 pages

[5] Rosemary Coates (2009), **42 Rules for Sourcing and Manufacturing**

Happy About, - Business & Economics - 134 pages

experiences in China are interwoven into this book.

[6] SudhiSeshadri,(2005) **Sourcing strategy [electronic resource] : principles, policy, and Designs**, Springer, - Business & Economics - 319 pages.

[7]**Managing Information Technology in a Global Environment** (2001) Information Resources Management Association. International Conference Idea Group Inc (IGI), - Computers - 1202 pages.

[8] **Erp Software: Enterprise Resource Planning, Microsoft Dynamics Ax, Configurable Network Computing, ErpNext, List of Erp Software Pac**,(2010), Source Wikipedia, Books Llc, General Books LLC- 36 pages.